

gram of said alumina film and containing a small amount of a platinum group metal catalyst, said support being a solid, unitary body having a major proportion of crystalline material and having unobstructed openings there-through, a total surface area of at least about 0.08 square meters per gram of said support, an accessible pore volume of at least about 0.03 cubic centimeter per gram of support, and a water pore volume of at least about 10%, said film being deposited on said support by contact of the latter with an aqueous dispersion of alumina and calcining the composite.

2. The catalyst composition of claim 1 wherein the platinum group metal is platinum.

3. The catalyst composition of claim 1 wherein the platinum group metal is palladium.

4. The catalyst composition of claim 1 wherein the catalytically active alumina is derived by calcination of alumina hydrate predominating in trihydrate, and said film has a thickness of about 0.0001 to 0.005 inch.

5. The catalyst composition of claim 1 wherein the support has an accessible pore volume of 0.1 to 0.3 cubic centimeters per gram.

6. The catalyst composition of claim 1 wherein the support contains about 3 to 18 cellular channels per inch passing from one surface to the other surface, the cellular channels being defined by an inert refractory wall of about 2 to 25 mils in thickness.

7. The catalyst composition of claim 1 wherein the inert refractory support is alpha-alumina.

8. The catalyst composition of claim 1 wherein the inert refractory support is mullite.

9. The catalyst composition of claim 8 wherein the inert refractory support is zircon-mullite.

10. The composition of claim 1 wherein the water pore volume of the support is about 15 to 50%.

11. The composition of claim 10 wherein the platinum group metal is platinum or palladium.

12. The catalyst composition of claim 11 wherein the inert refractory support is zircon-mullite.

13. A catalyst composition comprising an inert, substantially catalytically inactive refractory support having

a film of catalytically active alumina, said film having a total surface area of at least about 25 square meters per gram of said alumina film and containing a small amount of a platinum group metal catalyst, said support being a solid, unitary body having a major proportion of crystalline material and having unobstructed openings there-through, a total surface area of at least about 0.08 square meters per gram of said support, an accessible pore volume of at least about 0.03 cubic centimeter per gram of support and a macropore distribution such that over 95% of the pore volume is in pores having a diameter of over 2,000 A. and over 5% of the pore volume is in pores having a diameter of over 20,000 A. said film being deposited on said support by contact of the latter with an aqueous dispersion of alumina and calcining the composite.

14. The catalyst composition of claim 13 wherein the platinum group metal is platinum.

15. The catalyst composition of claim 14 wherein the inert refractory support is zircon-mullite.

References Cited

UNITED STATES PATENTS

3,189,563	6/1965	Havel	252—477
1,577,188	3/1926	Patrick	252—460
2,742,437	4/1956	Houdry	252—477
2,964,480	12/1960	Schwartz	252—439
3,088,271	5/1963	Smith	252—477
3,109,715	11/1963	Johnson et al.	23—2
3,167,499	1/1965	Haresnape	252—477
3,231,520	1/1966	Leak et al.	23—2
3,264,228	7/1966	Burbidge	23—2

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